The Naval-Stores Industry in the Old South, 1790-1860

By Percival Perry

Contrary to popular opinion the Old South was not one vast cotton field stretching from Virginia to Texas. The South had more diversity in its agricultural economy than is generally known. Cotton was the main crop, but there were many important regional staples, such as tobacco, sugar, rice, and hemp, in addition to major food crops such as corn, small grain, and potatoes. And there was one part of the South which exhibited a still greater diversity. During the ante-bellum period North Carolina occupied a unique place. With the exception of a tier of counties bordering the Virginia line it lay outside the tobacco economy of Virginia and Maryland, and throughout most of the period it was considered outside the cotton belt. In the early years of the nineteenth century cotton culture was attempted, but it did not find much favor with North Carolinians until the decade of the 1850's. Sugar and hemp, in a commercial sense, were also foreign to North Carolina's borders, and only a small quantity of rice was produced.[1] North Carolina's staple during the middle period, at least for the eastern part of the state, was naval stores. Little, however, is known about this phase of the state's economy, its relation to the history of the South, or the significant role which North Carolina played in supplying the nation with these essential commodities.

Studies of other staple commodities of the Old South have been made, and the colonial phase of the naval-stores industry is gen-

[1] Joseph C. Robert, *The Tobacco Kingdom: Plantation, Market, and Factory in Virginia and North Carolina, 1800-1860* (Durham, 1938), 16-17; J. Carlyle Sitterson, *Sugar Country: The Cane Sugar Industry in the South, 1753-1950* (Lexington, 1953); James F. Hopkins, *A History of the Hemp Industry in Kentucky* (Lexington, 1951), 68. For references to cotton culture see Lewis C. Gray, *History of Agriculture in the Southern United States to 1860* (2 vols., New York, 1941), II, 888-92, and *Southern Cultivator*, XVIII (November 1860), 350. For a description of the rice coast see Gray, *History of Agriculture*, II, 721-24. The eastern rice coast embraced the region from Cape Hatteras in North Carolina to Jacksonville, Florida, but production in North Carolina was chiefly in Brunswick County, south of the Cape Fear River.

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erally well known, but there are few studies of the production of naval stores in the middle period. This oversight may have arisen from the difficulty in obtaining statistics on naval-stores production during this period. They were seldom classed under manufactures, since in the early days they were usually shipped in crude form. Similarly, they were omitted from the statistics on agriculture, since they were not properly a product of the soil produced through the usual methods of husbandry. They were, moreover, produced extensively in a single state which had only one port of any size. Consequently, little information on naval stores was collected, and there are few references to the industry in the general accounts of Southern economy in the ante-bellum period.[2]

This paper is a study of the staple product of a state and of an area, the "piney woods," that writers of Southern history have generally ignored. Chief attention is given to North Carolina, where production was greater than in all other states combined, but a brief sketch of the development of the industry in the lower South in the decade prior to the Civil War is included. Information has been gleaned from government publications, agricultural journals, newspapers, travel accounts, and private papers of the larger producers engaged in the trade. Regrettably, too little is known of the smaller producers. Often unable to read or write, they lived, worked, and moved on, leaving only the exhausted faces of the pines as temporary monuments of their activities.

The longleaf pine tree furnished the raw material for the naval-stores industry. In its original expanse the Southern pine forest, occupying the wide coastal plain from Virginia to Texas, covered some 130 million acres.[3] Here at least ten species of pine

[2] For example, Gray in his *History of Agriculture* devotes considerable attention to the production of naval stores in the colonial period but gives only a few incidental references to the industry in the middle period, when naval stores constituted one of the staple products of North Carolina. Likewise, Ulrich B. Phillips accords it no place in his *Life and Labor in the Old South* (Boston, 1929), while his *American Negro Slavery: A Survey of the Supply, Employment and Control of Negro Labor as Determined by the Plantation Régime* (New York, 1918) contains but one sentence (p. 414) relating to slaves employed in the production of turpentine. The most recent general survey of plantation slavery, Kenneth M. Stampp, *The Peculiar Institution: Slavery in the Ante-Bellum South* (New York, 1956), 61, 71, has a total of eight lines relating to slaves employed in the production of naval stores. For a detailed study of the production of naval stores in the ante-bellum period, see Percival Perry, "The Naval Stores Industry in the Ante-Bellum South, 1789-1861" (unpublished Ph.D. dissertation, Duke University, 1947).

[3] Rupert B. Vance, *Human Geography of the South: A Study in Regional Resources and Human Adequacy* (Chapel Hill, 1932), 111-12.

were to be found, but it was the longleaf pine which served as the basis for the industry. It yielded two basic products, turpentine and tar. Turpentine was obtained from the *living* tree by wounding the tree and collecting the resin in a cup cut in the base of the trunk. Spirits of turpentine and rosin were obtained by distilling the crude resin in the same manner in which whiskey was distilled. Tar was made from "lightwood," which was the heart of the *dead* pine. Fragments of dead trees were gathered, made into a kiln covered with earth, and subjected to a slow fire which forced out the resinous matter. Pitch was a concentration of tar.[4] Wooden sailing vessels used large quantities of tar and pitch, hence the term "naval stores." In the eighteenth century the term had a much broader meaning than in later times and included masts, spars, hemp, and other articles.[5] For the period 1790-1860 the term referred only to turpentine and tar and their derivatives by distillation, spirits of turpentine, rosin, and pitch.

Although naval stores were produced in virtually all the North American colonies in the early colonial period, they did not assume much importance in the export trade until after 1705. In that year England, anxious to develop a source of supply independent of the Baltic countries, offered bounties for the production of naval stores in the colonies.[6] Production thereafter increased rapidly in the Carolinas and New England until the 1720's. In 1729, due primarily to an oversupply of naval stores, the bounties were reduced in amount. Subsequently the industry declined in South Carolina, and the planters of that colony turned their attention to the culture of rice and indigo.[7] In North Carolina, however, several considerations resulted in continued growth of the industry. In the first place, lumbering and the production of other forest products were not subject to the keen competition characteristic of other staples. Secondly, the soil was

[4] Frederick Law Olmsted, *A Journey in the Seaboard Slave States, with Remarks on Their Economy* (New York, 1856), 338; Edmund Ruffin, *Agricultural, Geological, and Descriptive Sketches of Lower North Carolina, and Similar Adjacent Lands* (Raleigh, 1861), 255; W. G. Wahlenberg, *Longleaf Pine: Its Use, Ecology, Regeneration, Protection, Growth, and Management* (Washington, 1946), 20.

[5] Charles Christopher Crittenden, *The Commerce of North Carolina, 1763-1789* (New Haven, 1936), 53.

[6] For a detailed account of the reasons leading to the enactment of this law granting bounties to encourage the industry as well as a brief sketch of the industry as it related to the English mercantile system from 1705 to 1776 see Justin Williams, "English Mercantilism and Carolina Naval Stores, 1705-1776," *Journal of Southern History*, I (May 1935), 169-85.

[7] Gray, *History of Agriculture*, I, 153-57.

poor except in the river bottoms, and the manufacture of naval stores was a more remunerative employment than agriculture.[8] But the main reason was that it was carried on in North Carolina chiefly by small farmers living in the pine forest, many of whom worked unassisted, whereas in South Carolina it had been principally a means of employing plantation labor in the winter.[9] By the end of the colonial period North Carolina produced in value three-fifths of all the naval stores shipped from the continental colonies.[10]

Information concerning naval stores is very fragmentary in the post-Revolutionary period down to 1815.[11] Deprived of the British bounty, exports from North Carolina declined, especially in the southern part of the state, although there was an increase in the Washington-Albemarle Sound region to the north.[12] The chief development in the industry during this period was its gradual westward movement to the Roanoke and Tar rivers region.[13] Otherwise it continued to manifest all the characteristics of the colonial industry; that is, production was carried on chiefly by small farmers, with tar the chief product exported, crude turpentine second, and pitch third.[14]

Export statistics from 1805 to 1830 reveal that a gradual shift of emphasis occurred. Exports of tar and pitch declined considerably, while exports of crude turpentine, spirits of turpentine, and

[8] *Ibid.* According to a traveler in the United States in 1783 the pine trees which grew on the barren soil yielded "more profit to the occupiers, from the smallest capital imaginable, than can well be conceived was it not so well authenticated." J. F. D. Smyth, *A Tour in the United States of America* (2 vols., Dublin, 1784), II, 95.

[9] Gray, *History of Agriculture,* I, 157. For a divergent view see Harry Roy Merrens, *Colonial North Carolina in the Eighteenth Century: A Study in Historical Geography* (Chapel Hill, 1964), 88-90.

[10] Crittenden, *Commerce of North Carolina,* 73; Gray, *History of Agriculture,* II, 1019, Table 36.

[11] The federal census reports through 1830 are wholly inadequate for this study, while the exports of naval stores, which might normally be expected to give some general indication of the volume of the trade, reflect the vagaries of commerce generally during the European wars. There are only a few scattered references to the industry in the newspapers of the period.

[12] Crittenden, *Commerce of North Carolina,* 160.

[13] Jeremy Battle, "A Statistical and Historical Account of Edgecombe County, First Presented to the Agricultural Society of Said County in 1811," extracts quoted in Tarboro *Press,* September 17, 1842.

[14] Timothy Pitkin, *Statistical View of the Commerce of the United States of America: Its Connection with Agriculture and Manufactures; and an Account of the Public Debt, Revenues, and Expenditures of the United States* (Hartford, 1817), 71-78.

rosin showed a gradual increase.[15] In effect, however, the naval-stores trade, like the whole economy of North Carolina, was in a static condition. The cotton economy in the Southwest was expanding, and the great migration to that region was in progress. Unable to compete with the lower South in the culture of cotton, large numbers of people emigrated from North Carolina.[16] The tardiness of the state in making improvements in transportation also contributed to this movement and led North Carolina to be christened the "Rip Van Winkle" of the American states.[17] During the 1830's emigration from North Carolina continued, but an increased demand for turpentine attracted the attention of those who remained at home. The expansion of the turpentine industry in the 1830's played a large role in lifting the economic and cultural well-being of the entire state.[18]

Several factors contributed to this expansion and shift in interest from tar and pitch to turpentine and rosin. Most important was the discovery of a variety of new uses for spirits of turpentine. The manufacture of rubber products increased rapidly during the 1830's, and there was considerable demand for spirits of turpentine as a solvent for crude rubber.[19] Still more important, however, was the use of spirits of turpentine as an illuminant. With the decline of whaling there was an urgent need for a new fuel for lamps. Burning a piece of "lightwood" in the fireplace

[15] Statistics on the export of naval stores between 1821 and 1855 are given in U. S. Patent Office, *Annual Report, 1855: Agriculture* (Washington, 1856), 423-72. See also Pitkin, *Statistical View*, 74, 78.

[16] See extract of a report made to the legislature in 1828 on the establishment of cotton and woolen manufactures, quoted in Hugh T. Lefler, *North Carolina History Told by Contemporaries* (Chapel Hill, 1934), 252-53.

[17] Down to 1833 the state had spent a total of $295,146.98 on internal improvements of all types. Cecil K. Brown, *A State Movement in Railroad Development: The Story of North Carolina's Effort to Establish an East and West Trunk Line Railroad* (Chapel Hill, 1928), 13.

[18] The more frequent references in the New Bern and Washington newspapers were sufficient to indicate that the production of naval stores accounted for a considerable part of the economic activity of the region and that the production and distillation of turpentine was becoming of greater local importance. See Tarboro *Press*, September 5, 1834; March 31, 1835; January 16, 1836; April 1, June 24, 1837.

[19] For a description of a recently established rubber manufacturing plant in Boston in 1834, see an article published in the Washington *National Intelligencer*, quoted in *Farmer's Register*, II (December 1834), 414-15. For other references to the growing use of rubber, see New York *Star*, quoted in Tarboro *Press*, February 14, 1835; London *Penny Magazine*, quoted in *Southern Agriculturist*, IX (May 1836), 264-66; *Southern Cabinet*, I (October 1840), 640; Boston *Journal*, quoted in *Southern Planter*, XVI (November 1856), 350; *Southern Cultivator*, XVII (June 1859), 172.

had long provided light for poor farmers.[20] After the middle 1830's a liquid product called camphene, a mixture of spirits of turpentine and alcohol, was extensively used in lamps to provide a more satisfactory form of light.[21] New uses were also discovered for rosin, the by-product of the distillation of turpentine. Rosin was used principally in the manufacture of soap, but subsequently two oils were derived from it, one of which was an illuminant and the other a lubricant.[22] A second factor in the expansion of the industry was the perfection of the copper still in 1834. An improvement in the mouth and worm of the still greatly facilitated the process of distilling crude turpentine and made it more profitable.[23]

A third factor aiding expansion was the improvement of transportation facilities in North Carolina after the middle 1830's. The excessive weight and bulk of naval stores in proportion to the prices obtained for them made production unprofitable except where cheap transportation was available. Consequently, improved transportation and the expansion of the naval-stores industry in North Carolina went hand in hand, and each greatly influenced the other. In 1833 the people of Wilmington, a town of about 3,500 and the largest urban community in the state, cast aside the lethargy which characterized most of North Carolina

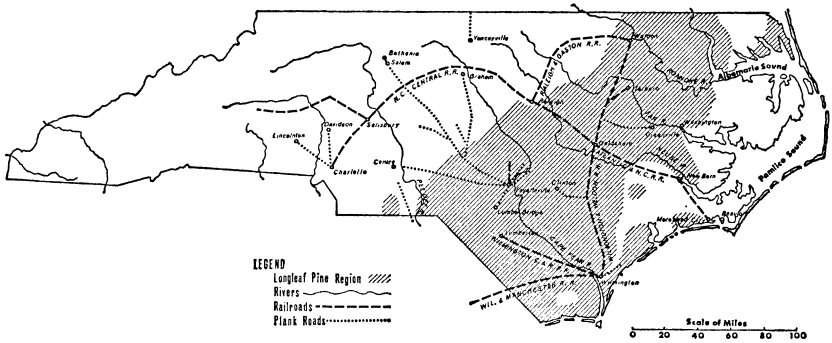
[20] *Monthly Journal of Agriculture*, I (May 1846), 543. "Lightwood," the heart of a dead longleaf pine, was so named because of the light it yielded when burned, not because of the weight of the wood, which was quite heavy.

[21] *American Farmer*, quoted in *Southern Agriculturist*, VI (December 1833), 664; VII (October 1834), 530-35. For notices and advertisements of lamps and the fluid for burning in them, see Wilmington *Chronicle*, December 7, 21, 1842; February 8, 1843. A government report in 1843 stated that camphene lamps were in extensive use. U. S. Patent Office, *Annual Report, 1843: Manufactures* (Washington, 1843), 328-30. For an article on the general uses of spirits of turpentine see *De Bow's Review*, XVIII (February 1855), 188-91. See also *Scientific American*, quoted in Tarboro *Press*, May 13, 1848.

[22] Daniel Lee, "The Art and Principles of Soap-Making," *Southern Cultivator*, XIV (May 1856), 164-65; *De Bow's Review*, XVIII (February 1855), 190-91; Fayetteville *North Carolinian*, March 15, 1851; June 19, July 31, 1852; New Bern *Republican*, quoted in Tarboro *Press*, January 27, 1849; Wilmington *Journal*, quoted in Tarboro *Press*, April 5, 1851; New Orleans *Crescent*, quoted in *Arator*, III (April 1857), 734-35; Mobile *Daily Tribune*, September 10, 1858; Wilmington *Chronicle*, February 7, 1849.

[23] Vance, *Human Geography of the South*, 117. François André Michaux mentions copper stills in use in North Carolina as early as 1804 but describes them as being "of an imperfect shape, being so narrow at the mouth as to retard the operation." *The North American Sylva, or a Description of the Forest Trees of the United States, Canada and Nova Scotia* (3 vols., Philadelphia, 1817-1819), III, 142. For a description of early stills see advertisements in New Bern *Carolina Federal Republican*, September 18, October 16, 1813; New Bern *Carolina Centinel*, June 27, 1818; March 20, August 28, 1819.

North Carolina, 1860



and began to promote the building of a railroad from the port to the interior. The Wilmington and Weldon Rail Road, begun in 1836 and completed in 1840, was reported to be the longest railroad in the world at that time. It extended 161 miles from Wilmington in the south to Weldon on the Roanoke River in the north and ran through the heart of the longleaf pine forest. Completed just in time for the boom in the naval-stores industry, it opened up a vast territory in which the raw material stood virtually untouched and provided the farmers of that area a quick, safe, convenient, and reasonably inexpensive means of getting their products to market.[24]

With these encouragements North Carolinians re-entered the naval-stores business, and the economic life of the state quickened its pace. The federal census of 1840 reported a total production of 619,106 barrels of naval stores in the United States, of which North Carolina produced 593,451. The three largest producing counties, Craven, Beaufort, and Pitt, were in the central coastal region surrounding Washington and New Bern and accounted for more than half the state's total.[25]

During the decade from 1840 to 1850 the production of naval stores in North Carolina increased rapidly. Throughout the pine

[24] Brown, *A State Movement in Railroad Development,* 19-36; Howard D. Dozier, *History of the Atlantic Coast Line Railroad* (New York, 1920), 56-66; James Sprunt, *Chronicles of the Cape Fear River, 1660-1916* (Raleigh, 1916), 149-54; Wilmington *Advertiser,* May 4, November 16, 1838; Wilmington *Chronicle,* June 9, November 3, 1841; June 2, 1842; Tarboro *Southerner,* February 7, 1852. The company was chartered in 1833 as the Wilmington and Raleigh Rail Road Company, but it was built to Weldon, and in 1855 the name was changed to the Wilmington and Weldon Rail Road Company.

[25] Virginia, with 5,809 barrels, was the next largest producing state. South Carolina, Georgia, and Alabama each produced less than 1,000 barrels, and Florida none. Production in Virginia and South Carolina was concentrated in one

regions of the eastern part of the state the turpentine business began to expand, bringing prosperity to the port towns and a quickening impulse to the economic life of North Carolina generally. In March 1841 the editor of the Wilmington *Chronicle,* reviewing the progress of Wilmington since 1830, stated that the changes, most of which had occurred in the preceding four years, were so great that those who had not seen Wilmington within five years would scarcely recognize it.[26] In September 1842 he added: "It is really gratifying to our local pride, to observe the indications of our increasing prosperity; an active spirit of enterprise seems to be abroad, and the result is a very perceptible difference in the appearance of our town . . . . Old Wilmington has at length assumed her true position, that of the leading place of traffic in North Carolina, the principal town in the State, greater in population, greater in trade, and greater in a quickening spirit of enterprise."[27]

While there was considerable expansion in the older turpentine region of Washington and New Bern, the main new development in the 1840's was south of the Cape Fear River, and in the 1850's, up the river valley. The development in this region brought changes to the industry. In earlier days naval stores had been produced principally by the small farmers, and although this group continued to produce turpentine, the planter class entered the business in the 1840's. A number of those who developed the industry in the Cape Fear region were sons of planters from the Washington area, who migrated to the new regions where extensive tracts of virgin timber permitted large-scale operations using slave labor.[28]

Local distilling brought an end to the earlier practice of shipping the crude turpentine to the North or to England for dis-

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or two counties bordering North Carolina. *Sixth Census of the United States, 1840: Compendium of the Enumeration of the Inhabitants and Statistics of the United States* (Washington, 1841), 357 and *passim.*

[26] Wilmington *Chronicle,* March 31, 1841. See also the issue of August 3, 1842, for a statement on the rapidly expanding turpentine business of Wilmington.

[27] *Ibid.,* September 28, 1842.

[28] Many of those from Beaufort and Pitt counties settled in Brunswick County, which lay south of Wilmington. Among them were James R. Grist, who purchased 6,000 acres in Brunswick, D. W. Jordan, Henry Jordan, and others. Willi E. Smaw to Allen Grist, November 23, 1843, in James Redding Grist Business Papers (Duke University Library, Durham, North Carolina); D. W. Jordan to Emily Jordan, April 9, 1844; Malvina Jordan to D. W. Jordan, November 2, 1843; Churchill Perkins to D. W. Jordan, July 1845, in Daniel W. Jordan Papers (Duke University Library). D. L. Russell, a brother-in-law of James R. Grist,

tillation. Distilleries were now established in the port towns. In 1841 Wilmington had only two distilleries, but it had nine in 1844 and eleven (operating thirty-four stills) in 1845. In addition, there were nine other distilleries in the vicinity.[29] Washington, North Carolina, had eight distilleries operating sixteen stills in 1846; and naval stores accounted for nearly three-fourths of her exports.[30] New Bern in 1851 had twelve turpentine distilleries.[31]

The repeal of the British duties on turpentine products gave a further stimulus to the naval-stores industry in North Carolina in 1845-1846. The new schedules of duties became effective in May 1845. Exports to England increased, prices in America advanced, and speculation followed. When one New York firm attempted to corner the market the price of turpentine soared from its usual level of $2.50 to $3.00 to more than $5.00 per barrel; and "getting turpentine" became a mania in North Carolina.[32] Many farmers forsook their plows and the cultivation of the soil, took their axes, and headed for the woods to "get turpentine." The diversion of labor from farming was so great the editor of the *Newbernian* observed that "The great rage for making turpentine, gives an assurance to those who produce breadstuffs and pork, of a good return for their labor . . . ."[33]

Reports came from all over the state of the prevailing interest in producing turpentine. The Tarboro *Press* in February 1846

owned 25,000 acres in Brunswick County and 150 slaves. In 1855 the value of naval stores produced on his estate amounted to $25,000. A detailed description of Russell's estate from the Wilmington *Herald* is quoted in *Arator*, I (May 1855), 43.

[29] Wilmington *Chronicle*, March 31, 1841; September 17, 1845; *ibid.*, quoted in Tarboro *Press*, January 25, 1845.

[30] Washington *Whig*, quoted in Tarboro *Press*, January 21, February 11, 1846. The stills consumed 118,000 barrels of naval stores annually. In addition, exports for the year amounted to 232,266 barrels of naval stores and 7,074 barrels of spirits of turpentine. The minor exports consisted of 66,744 bushels of grain, 6,272,000 feet of lumber, 2,892 bales of cotton, and other items. *Ibid.*, January 21, 1846.

[31] Raleigh *North Carolina Standard*, quoted in Fayetteville *North Carolinian*, May 24, 1851.

[32] New York *Shipping and Commercial List*, May 10, 21, October 8, 11, 29, November 27, December 10, 13, 31, 1845. The market news of December 10, 1845, noted that at $5.12½ per barrel the price of turpentine on the New York market was the highest it had been since the close of 1835, when there was heavy demand from Liverpool. Most of the crude turpentine sold on the New York market was from the Washington-New Bern area, as Wilmington retained a large proportion of its crude for local distilling. The principal demand was for spirits of turpentine for use in the manufacture of camphene, but the price of rosin and other naval stores also advanced.

[33] New Bern *Newbernian*, quoted in Tarboro *Press*, April 22, 1846.

noted the prosperity brought to Washington and Tarboro by the sudden increase in turpentine production,[34] while Fayetteville in the south reported similar glad tidings of good times. According to the editor of the Fayetteville *Observer,* "This part of our State has never, to our knowledge, been in so prosperous a condition as at present. Lands have risen, one, two, or three hundred per cent., and labor is so profitable that the country is full of money to make investigations. . . . A gentleman who had gone to Wilmington to sell his turpentine, in pocketing $1900, remarked that sum was the produce of the labor of four hands. As a consequence of this state of things, and for the first time probably, many persons from the upper counties are moving down. The tide of Western migration may be said to have ceased entirely."[35]

Wilmington most of all felt the impetus of the booming turpentine trade. Between September 1845 and March 1846 four new distilleries were added to the previous eleven, providing a total of thirty-eight stills. "The distilling business," the editor of the *Chronicle* reported, "has in fact become a great interest here, one almost equal in importance to any other. . . . In addition to these in Wilmington, there are a great many distilleries . . . in the neighboring counties, and on the line of the Rail Road . . . and others are going up in every direction in the country around."[36]

Speculation in naval stores had reached its peak, however, and when the new crop began to arrive in market the following May the price of turpentine tumbled to two dollars per barrel and the price of spirits of turpentine from sixty-five cents to thirty-five cents per gallon.[37] The collapse of the market dashed the high expectations raised by the previous year's prices and cast a gloomy shadow over future prospects. Even at the lower prices, however, naval stores were as profitable as anything else that could be produced on the poor, barren soil, and production continued to expand although at a slower pace.

Following the crash in the market the custom distilleries began to move from the port towns to inland locations nearer the source of supply of crude turpentine. When the price of rosin was low

[34] Tarboro *Press,* February 11, 1846.

[35] Fayetteville *Observer,* quoted, *ibid.*

[36] Wilmington *Chronicle,* March 11, 1846. A traveler passing through Wilmington in 1846 counted "some twenty turpentine distilleries, most of them lately set up, and all doing a very profitable business." *Southern Cultivator,* IV (November 1846), 172-73. See also Wilmington *Chronicle,* March 20, 1846.

[37] Washington *Whig,* quoted in Tarboro *Press,* April 22, 1846; Wilmington *Journal,* May 15, 1846.

only the spirits of turpentine was shipped, and large savings were made in transportation costs.[38] After 1848 many of the larger producers of turpentine purchased stills and did their own distilling.

Naval stores continued to be the chief articles of trade at New Bern and Washington in the early 1850's,[39] but Wilmington was the most important port for naval stores because it drew upon a larger back country. Production also continued along the route of the Wilmington and Weldon Rail Road, but the main expansion of the industry after 1848 was in the upper reaches of the Cape Fear and Deep rivers, with Fayetteville in Cumberland County as the center of the trade. From there naval stores were transported by steamer and towboat down the river to Wilmington.

In 1844 Cumberland County had only one turpentine distillery; eight years later there were thirty-two, and new distilleries were being erected constantly.[40] The Fayetteville *Observer* announced in January 1853 that the population of Cumberland County had increased another thousand since the first of the year, "about 300 whites and 700 slaves having arrived there from other parts of the State to engage in the turpentine business."[41]

This rapid development of the Cape Fear region was made possible by the transportation facilities offered by the river and the extensive tracts of pine forest along its banks. When these forests were exhausted efforts were made to improve the navigation of the river above Fayetteville. In the 1850's the Cape Fear and Deep River Navigation Company, supported by Wilmington interests, succeeded for a time in making the river navigable

[38] Wilmington *Journal*, April 2, 1847. There were several qualities of rosin. At distilleries far removed from transportation facilities only rosin made from virgin dip (first year's crop) turpentine was saved. Common rosin, which often sold for as little as sixty-five cents per barrel, would not pay transportation costs and was usually drained from the still and allowed to run on the ground. Frederick Law Olmsted mentioned a distillery which had been in operation only one year which had a pool of rosin nearby estimated to contain nearly three thousand barrels. *A Journey in the Seaboard Slave States*, 345.

[39] Raleigh *North Carolina Standard*, quoted in Fayetteville *North Carolinian*, May 24, 1851; Washington *Despatch*, quoted in Wilmington *Herald*, May 20, 1851.

[40] W. W. Ashe, *The Forests, Forest Lands and Forest Products of Eastern North Carolina* (North Carolina Geological Survey, *Bulletin*, No. 5, Raleigh, 1894), 77; Fayetteville *Observer*, quoted in Fayetteville *North Carolinian*, December 11, 1852.

[41] Fayetteville *Observer*, quoted in Raleigh *North Carolina Standard*, February 2, 1853.

as far north and west as Chatham County and made possible the extension of the naval-stores industry to a region previously considered inaccessible.[42]

Overland transportation was improved by an extensive system of plank roads which radiated from Fayetteville. The readily accessible supply of timber in the pine barrens made construction of such roads easy, and the growing demand for naval stores provided the stimulus. The first and best-known plank road was the Fayetteville and Western, incorporated in 1849 and completed about 1854. Known as the "Appian Way" of North Carolina, it extended 129 miles from Fayetteville northwest to Bethania in Forsyth County. The success of this road, the longest plank road ever constructed, led to the building of four other plank roads radiating from Fayetteville into the surrounding country.[43] These roads served as artificial tributaries of the Cape Fear and permitted the extension of the naval-stores industry to the very limits of the longleaf pine forest.[44]

Wilmington sought to continue her hold on the naval-stores trade in the 1850's by building a railroad through the pine region to the south. The Wilmington and Manchester Rail Road, completed in 1853, extended 158 miles through the pine forests of Columbus County to the village of Manchester, South Carolina, and was an important factor in the development of the naval-stores industry in that region.[45] Similarly, the Wilmington, Charlotte, and Rutherford Rail Road was sponsored by Wilmington in 1855. Its projected route was westward from Wilmington through Bladen, Robeson, and Richmond counties. It was designed to open the hitherto landlocked pine forests in the region south of the Cape Fear River. It was completed only a few miles beyond

[42] Wilmington *Journal*, December 3, 1852; January 21, 1853; March 19, 1854. See also an article signed "Deep River" in the Fayetteville *Observer*, quoted, *ibid.*, February 20, 1857, which gives more detailed information on the navigation of the upper Cape Fear and Deep rivers by steamers and flatboats. The exploitation of the coal deposits in Chatham County offered another reason for improving the river.

[43] The part played by plank roads as a means of improved transportation in North Carolina in the 1840's and 1850's is treated in detail by Robert B. Starling, "The Plank Road Movement in North Carolina," *North Carolina Historical Review*, XVI (January and April 1939), 1-22, 147-73.

[44] Lefler, *North Carolina History Told by Contemporaries*, 228. See also Wilmington *Journal*, February 18, 1853; Tarboro *Southerner*, March 26, 1853; New Bern *News*, quoted, *ibid.*, April 16, 1853.

[45] Wilmington *Journal*, February 12, 1847; February 18, 1853. See also *Exhibit of the Condition and Prospects of the Wilmington and Manchester Rail Road Company* (New York, 1851), 6; Ulrich B. Phillips, *History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908), 351-53.

Lumberton in Robeson County, a total distance of about eighty miles, by the time of the Civil War.[46]

The turpentine industry expanded so rapidly in the 1840's and 1850's and the economic and cultural changes that followed in its wake were so numerous that the editor of the Wilmington *Journal* wrote a long editorial in 1853 listing the accomplishments in North Carolina since 1848. Labeling his editorial "Then and Now," the editor, with pardonable pride, concluded: "With whatever justice the sobriquet of 'Rip Van Winkle' may in former times, have been applied to the 'old North State,' or with whatever propriety her people may have been taunted with tardiness in adopting the improvements, or keeping up with the progress of the age, we think that a calm survey of the relative position of affairs for five or six years past, and at the present time, will convince every unprejudiced mind that such epithets, or such taunts would now be not only highly improper, but also in direct contrast to the true state of the case as it now exists."[47]

Even a newspaper from aristocratic Charleston, South Carolina, one of the "mountains of conceit" against which North Carolinians had so long labored, admitted the progress of North Carolina in the 1840's, concluding with the humiliating confession: "It would be folly to call her any longer by the sleepy name of Rip Van Winkle. Our own State seems now to be the drowsier of the two."[48]

The prosperity and progress which eastern North Carolina enjoyed from the expansion of turpentine production, distilling, and shipping soon waned, however. The naval-stores industry was by nature migratory, for the raw material was exhausted after ten or twelve years of exploitation and could not be replaced in a lifetime. After the destruction of the virgin forests, the primeval longleaf pine was replaced by an inferior species of rapid growth but of little value for turpentine. The crude and wasteful methods employed by turpentine producers of this period contributed materially to an early exhaustion of the available turpentine areas in North Carolina and to the steady migration of the industry southward. A pine-borer epidemic in the state in 1848 and 1849 de-

[46] *Annual Meeting of the Stockholders of the Wilmington, Charlotte and Rutherford Rail Road Company, Proceedings, 1860* (Wilmington, 1860), 8; North Carolina General Assembly, Session 1860-61, Committee on Internal Improvements, *Report on the Bill Securing the Completion of the Wilmington, Charlotte and Rutherford Rail Road and to Amend the Charter of the Same: Legislative Document*, No. 1 (n.p., n.d.), 1-2.

[47] Wilmington *Journal*, February 11, 1853.

[48] Charleston *Evening News*, quoted, *ibid.*, January 8, 1846.

stroyed hundreds of thousands of longleaf pines and forced North Carolina producers to seek pine tracts elsewhere.[49]

There were sporadic efforts to produce turpentine outside North Carolina in the 1840's.[50] The earliest expansion worthy of note occurred in neighboring South Carolina. This might be considered an adjunct of the North Carolina industry, since the products were largely marketed in Wilmington from nearby coastal areas or from plantations situated along the Manchester Rail Road. Some native South Carolinians engaged in turpentine production, but many of the producers along this route were North Carolinians who had moved to South Carolina as their pinelands became exhausted. So little was known about turpentine production outside North Carolina that a South Carolinian or Georgian who wanted to engage in turpentine production usually employed a North Carolinian to conduct the operation.[51] North Carolina methods set the standard by which the industry was judged in other states.

In the late 1840's and early 1850's there were efforts at turpentine production along the Savannah and Altamaha rivers of Georgia and in the Palatka and Apalachicola regions of Florida.[52] It

[49] The epidemic of 1848 was located chiefly south of the Cape Fear River in Brunswick County, one of the largest turpentine-producing areas, although there was damage in other sections of the state. Wahlenberg, *Longleaf Pine,* 165; Wilmington *Chronicle,* quoted in *North Carolina Farmer,* III (May 1848), 271-72; Wilmington *Journal,* May 26, July 21, 1848; New Bern *Newbernian,* quoted in Tarboro *Press,* July 8, 1848; Wilmington *Herald,* quoted in *Arator,* I (May 1855), 43.

[50] D. W. Jordan to Emily Jordan, April 9, 1844; Emily Jordan to D. W. Jordan, April 25, 1844, in Jordan Papers; Cheraw *Gazette,* quoted in Wilmington *Chronicle,* March 11, 1846; Wilmington *Chronicle,* July 1, 1846; Fayetteville *North Carolinian,* June 12, 1847; Savannah *Georgian,* quoted in Wilmington *Journal,* March 31, 1848; *Alabama Planter,* quoted in Tarboro *Press,* June 2, 1849.

[51] For a detailed description of the beginning of turpentine production in South Carolina in the 1840's see an article by Edwin Herriot, "The Manufacture of Turpentine in the South," *De Bow's Review,* VIII (May 1850), 450-56. For examples of North Carolinians who moved to South Carolina to engage in turpentine production see Wilmington *Journal,* January 28, 1853; November 16, 1855; William A. Tutt to Mrs. Emily Jordan, February 22, 1847, in Jordan Papers; James E. Metts to James R. Grist, December 5, 1858, Grist Business Papers. See also *De Bow's Review,* VIII (May 1850), 450-56; Savannah *Republican,* quoted in Wilmington *Chronicle,* May 9, 1849.

[52] Savannah *Republican,* quoted in Wilmington *Chronicle,* May 9, 1849; January 15, 1851; Savannah *News,* quoted in Tarboro *Southerner,* October 2, 1852; Savannah *Republican,* quoted in J. D. B. De Bow (ed.), *The Industrial Resources of the Southern and Western States* (3 vols., New Orleans, 1852), III, 355; Fayetteville *North Carolinian,* June 12, 1847; *De Bow's Review,* XI (April 1851), 411; Savannah *Georgian,* quoted in Wilmington *Journal,* March 31, 1848; *ibid.,* January 19, 1855.

was not, however, until the middle 1850's that the lower South became actively interested in turpentine production, and the chief development was in the Mobile, Alabama, region. The turpentine producers of Alabama held a convention in Mobile in 1854 to discuss ways of encouraging the industry. The report of this convention was widely circulated and prompted many requests for additional information on the subject.[53] Even in the Mobile region many of the producers were North Carolinians who had moved with their labor force to a region where extensive tracts of pinelands and cheap water transportation made turpentining especially inviting.

The migratory character of the turpentine industry is perhaps best illustrated by the operations of James R. Grist. Grist originally engaged in turpentine production with his father in Beaufort County, North Carolina. When the industry began to expand, he purchased six thousand acres of pineland and moved to Brunswick County, south of the Cape Fear River. As this tract became exhausted he opened operations up the Cape Fear, and after the completion of the Wilmington and Manchester Rail Road in 1853 he acquired a plantation in Columbus County, southwest of Wilmington. In 1858 he sent his cousin Benjamin Grist, who had managed one of his North Carolina plantations, to Fish River in the Mobile Bay area, where he opened a new plantation employing approximately one hundred slaves. Production on this plantation for 1859-1860 amounted to 26,337 barrels of crude turpentine, from which were distilled 3,020 barrels of spirits of turpentine and 15,118 barrels of rosin, yielding a gross return of more than $70,000.[54]

Despite the growing interest in turpentine production in the lower South in the late 1850's, North Carolina remained the

[53] *De Bow's Review,* XVIII (February 1855), 188-91. For an earlier description of turpentine production in Alabama, see *Alabama Planter,* quoted in Tarboro *Press,* June 2, 1849. In response to these requests an article entitled "Turpentine. Hints for Those About to Engage in Its Manufacture" was published in the *Southern Cultivator* and copied into several other agricultural journals, among them the *Carolina Cultivator,* I (November 1855), 281-84. It was originally sent to the editor of the *Southern Cultivator* by John M. Potter of Decatur County, Georgia, but apparently he was not the author.

[54] Benjamin Grist to James R. Grist, April 6, 1858; March 16, November 18, 1860, in Grist Business Papers. See also "Memorandum of Shipments of Rosin & Spts Turpt by Mess A & J R Grist of Crop of 1859, to 1st May 1860" and "List of Grist Negroes for 1860," *ibid.* The letters of this collection mention a number of other North Carolinians who settled in Alabama and engaged in turpentine production.

largest producer of naval stores throughout the ante-bellum period. In 1860 the total value of crude and distilled turpentine produced in the South amounted to $7,409,745. Of this amount, $5,311,420 was produced in North Carolina. The value of production in other states was South Carolina, $1,096,974; Alabama, $642,114; Georgia, $236,111; Florida, $100,676; Louisiana, $20,750; and Mississippi, $1,700.[55] These figures indicate that the industry was still predominantly a North Carolina industry, but that expansion and development in the lower South had begun.

The depleted forest resources in North Carolina revived interest in agriculture, and the relatively high prices of cotton in the 1850's attracted many to its cultivation. Much was said and written about soil improvement and the use of commercial fertilizers. Some even labeled naval stores, once the pride of North Carolina, as "that great curse to our State," because it had drawn so many farmers away from their true interest, the cultivation of the soil.[56] This drift back to cotton production was especially true of the older turpentine region of Edgecombe and Pitt counties, but by the late 1850's it was also evident in the lower region of the state.[57]

[55] *Eighth Census of the United States, 1860, Manufactures* (Washington, 1865), 438, 559, 14, 82, 60, 204, 294. These figures do not give a true picture of the total value of the naval-stores industry, but only an indication of its development. Of the total value produced, crude turpentine accounted for only $986,366. Only three states (North Carolina, South Carolina, Alabama) were listed as producing crude turpentine, while seven were shown as producing distilled (spirits) turpentine. Obviously, crude turpentine would have to be produced first and in large volume, since thirty-two gallons of crude yielded only seven gallons of spirits, with a residue of twenty to twenty-five gallons of rosin. The census returns for 1860 make no mention of this valuable by-product, but the port of Wilmington, North Carolina, alone exported 477,846 barrels of rosin valued at approximately $1,000,000 for the year ending September 5, 1860. See weekly export list in Wilmington *Journal,* September 8, 1859, to September 5, 1860. In estimating the total value of the naval-stores industry in the United States in 1860, the $1,000,000 value of rosin mentioned above; the value of tar produced, $44,990; of rosin oil, $518,430; and of camphene, $2,810,960 should be added to the $7,409,745 for turpentine for a grand total of $11,784,125. See *Eighth Census of the United States, 1860, Manufactures,* 741, 739, 734, for figures on tar, rosin oil, and camphene.

[56] *Farmers' Journal,* I (June 1853), 81-82; Washington *Despatch,* quoted in *North Carolina Planter,* II (March 1859), 78; *ibid.,* II (June 1859), 168-69; Wilmington *Journal,* November 12, 1858.

[57] *Farmers' Journal,* I (June 1853), 81-82; *Southern Argus,* quoted in *North Carolina Planter,* III (August 1860), 263-64; Washington *Despatch,* quoted, *ibid.,* III (October 1860), 320; Wilmington *Journal,* August 7, 1858; New Bern *Daily Delta,* quoted in *North Carolina Planter,* II (October 1859), 311; *ibid.,* II (November 1859), 349; *Southern Cultivator,* XVIII (November 1860), 350.

The Civil War had a disastrous effect on the naval-stores industry, since the greater part of the annual production had been exported to Northern ports, principally New York, and to Europe in the prewar period. The Union blockade of the South disrupted the export trade, and the relatively low value of naval stores in proportion to their bulk made it unprofitable to run them through the blockade. After the war kerosene displaced camphene as a cheap illuminant. Production of naval stores revived in North Carolina for a time after the war, but the main postwar expansion took place in the states farther south. South Carolina led in 1879; Georgia, from 1889 to 1899; and Florida, from 1909 to 1919. In the latter year North Carolina produced only one-half of one per cent of the crop.[58] Today the principal naval-stores-producing region is in southeastern Georgia and northern Florida.

The significance of the naval-stores industry to the South is indicated by its position as the South's third largest export crop in 1850's, exceeded only by cotton and tobacco.[59] As for North Carolina, for a generation, 1835-1860, naval stores were a dominant part of her economy and her "peculiar staple" in the eastern coastal plain. They supplied this section and the state with a staple in the period when cotton was not always profitable and before the development of the eastern tobacco economy. As a staple they were doubly remunerative because the crop was largely processed within the state prior to exportation. They contributed greatly to the development of a transportation system, North Carolina's greatest need in the ante-bellum period. The prosperity engendered by the "turpentine boom" appreciably affected the cultural life of the state. Not only did North Carolina take the lead among Southern states in the establishment and development of a superior public school system in this period, but private and denominational schools also drew strength from the thriving naval-stores trade. Officials of Wake Forest College had great difficulty in raising $20,000 to retire the debt of the school in the early 1840's, but they obtained with relative ease an endowment of approximately $50,000 in the 1850's.[60] Washington Manly Wingate, who served as agent of the college in 1853-1854 to raise money for endow-

[58] Vance, *Human Geography of the South,* 121.

[59] See the tables on domestic exports in the Treasury Department's *Annual Report of the Commerce and Navigation of the United States* for the years concerned. Exports of rice exceeded naval stores only once after 1852, and that was by less than $100,000 in 1856.

[60] George W. Paschall, *History of Wake Forest College* (3 vols., Wake Forest, 1935-1943), I, 223-89.

ment, made pointed reference to the prosperity brought by the turpentine business as a factor in the liberality of individual contributions. At the same time he painted a moving picture of the destruction of the majestic longleaf pine forests. Writing from Clinton, North Carolina, in the heart of the turpentine region in the eastern part of the state, to the editor of the Raleigh *Biblical Recorder,* he said:

I am now operating in Sampson . . . . Clinton the county seat is a pleasant looking village with an air of neatness and comfort about it you seldom see. It is taking "the Spirit of the Age" and is rapidly growing in importance.— There is a large female school located at this place numbering a hundred and ten students and is in successful operation. The Baptists will soon build them a home of worship here. Indeed it is already under contract. The Brethren here generally seem to be spirited and liberal. But how they do bleed the poor pines to pay for it. They show their white faces around you on every side a great way up, and at night as you ride along they look for all the world like a great army of spectres ready to pounce upon you at every step and bear you away. Some of them from appearance have yielded their last supply and now stand like old martyrs awaiting the axe of the woodman. Unfeeling masters thus to exhaust the liberal tree until she can give no more, and then repay her by a burning. No wonder that the pines here *sigh* through all their leaves to every breeze that whispers by, for the time is not far distant when these stately monarchs of the forest, that have so long watched and adorned the soil that gave them birth, changing not amid summer's heat nor winter's cold, will have been borne down by the unwearied worker at their feet and not one vestige of their former glory will remain. Aye well may you weep melancholy tree for your days are numbered.[61]

Although the forests were rapidly and wantonly used, they at least provided some return before they were consumed by lumber mills or destroyed by farmers seeking land for cultivation; and the increase in capital derived from their exploitation contributed to the development of North Carolina in countless ways. That turpentine as a major "staple" passed rapidly from the state in the postwar period was of no great importance, for a more valuable and permanent substitute was soon found. The region whose economy once was based on the golden flow of resin from the longleaf pines is now the center for the culture of bright-leaf tobacco.

[61] Raleigh *Biblical Recorder,* April 7, 1854.

[Footnotes]

[6] **English Mercantilism and Carolina Naval Stores, 1705-1776**
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